

IN THE CLAIMS:

1 1. (Currently Amended) An improved method of oxidizing undesirable compounds
2 residing within a liquid based gas processing system comprising:

3 (a) first heating a liquid absorbent containing undesirable compounds within a reboiler
4 chamber to its boiling temperature, which is a temperature above the boiling point of water and
5 below the temperature of degradation of said absorbent, to produce vaporized effluents;

6 (b) condensing said effluents within a condenser;

7 (c) transporting residual uncondensed effluents to and through a vaporizer wherein said
8 effluents are first heated to re-vaporize any ambient condensed liquids;

9 (d) transporting and introducing said re-vaporized effluents to a thermal oxidizer
10 combustion chamber wherein said re-vaporized effluents are second heated to a temperature
11 necessary to effectuate thermal destruction of undesirable compounds;

12 (e) transporting and introducing said second heated effluents from said thermal oxidizer
13 combustion chamber to and through the internal portions of a heat recovery tube bundle, said
14 introduction and transport generating external tube surface temperatures sufficient to raise a liquid
15 glycol based absorbent in contact therewith to its boiling temperature; and

16 (f) transporting said second heated effluent from said tube bundle to and through a
17 reboiler vent stack.

1 2. (Currently Amended) The method as set forth in Claim 1 wherein said absorbent is
2 diethylene glycol (DEG).

1 3. (Original) The method as set forth in Claim 1 wherein said absorbent is triethylene
2 glycol (TEG).

1 4. (Original) The method as set forth in Claim 1 wherein said absorbent is one of a
2 group of absorbents including ethylene glycol, tetraethylene glycol or glycerin.

1 5. (Amended) The method as set forth in Claim 1 wherein said undesirable compounds
2 include benzene, toluene, ethylbenzene and xylene (~~BTEX~~).

1 6. (Original) The method as set forth in Claim 1 further comprising the step of
2 preheating said absorbent prior to its introduction into said reboiler.

1 7. (Original) The method as set forth in Claim 6 wherein the step of preheating said
2 absorbent prior to its introduction into said reboiler is accomplished by said absorbent's traversing
3 of a heating means incorporated within a thermal oxidizer vent stack.

1 8. (Currently Amended) The method as set forth in Claim 1 wherein said transporting
2 and introducing said second heated effluents to and through the internal portions of a heat recovery
3 tube bundle occurs at a controlled rate to regulate said external tube surface temperature by a
4 controlled venting mechanism in a vent stack of said thermal oxidizer chamber and in said reboiler
5 vent stack.

1 9. (Original) The method of Claim 1 further comprising the step of sparging said
2 absorbent while said absorbent traverses the internal portion of a sparging or stripping pipe located
3 within said reboiler.

1 10. (Original) The method of Claim 1 wherein the transporting of said partially
2 condensed effluents to and through a vaporizer means further comprises the step of collecting non-
3 vaporized effluents in a reservoir.

1 Claims 11 through 24 (Withdrawn)

1 25. (New) The method as set forth in Claim 1 wherein said transporting and introducing
2 said second heated effluents to and through the internal portions of a heat recovery tube bundle
3 occurs at a controlled rate to regulate temperature in said reboiler chamber by a controlled venting
4 mechanism in a vent stack of said thermal oxidizer chamber and in said reboiler vent stack.